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**Notice of Allowability**

Application No.

09/388,296

Examiner

Aravind K Moorthy

Applicant(s)

QUAN ET AL.

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2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

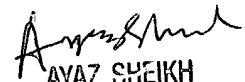
1. ☒ This communication is responsive to 7/1/04.
2. ☒ The allowed claim(s) is/are 1-55.
3. ☒ The drawings filed on 01 September 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
AYAZ SHEIKH

**SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100**

### **DETAILED ACTION**

1. Claims 1-55 are pending in the application.
2. Claims 1-55 have been allowed.

### **EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with George Almeida on 8/25/04.

The application has been amended as follows:

Claim 34 (amended). Apparatus for synthesizing copy protection signals in a video signal employing sync and/or pseudo sync pulses followed by respective automatic gain control (AGC) pulses, comprising:

a generating circuit for providing the respective AGC pulses within at least a portion of a back porch; and

wherein said generating circuit dynamically positions and/or width modulates the respective back porch AGC pulses to vary from maintaining to reducing copy protection effects or to vary from reducing to maintaining copy protection effects.

Claim 53 (amended). A method of synthesizing copy protection signals in a video signal, employing sync, pseudo sync and respective automatic gain control (AGC) pulses, comprising:

dynamically modulating the position, pulse width and/or gap width of the AGC pulses or of the sync/pseudo sync pulses, wherein a single AGC and/or pseudo sync pulse is modulated to vary from maintaining to reducing copy protection effects or to vary from reducing to maintaining copy protection effects.

**4. Claims 1-55 are allowed.**

The following is an examiner's statement of reasons for allowance. As to independent claims 1 and 39, the use of copy protection signals that include sync and/or pseudo sync pulses together with respective automatic gain control (AGC) pulses is well known in the art.

However, prior art does not disclose, teach or fairly suggest providing the sync/pseudo sync pulses with the trailing edge thereof having the small position separation from the leading edge of respective AGC pulses. Prior art does not disclose, teach or fairly suggest that the small position separation maintains the copy protection effect. Prior art does not disclose, teach or fairly suggest shifting the relative position of either the trailing edge of the sync/pseudo sync pulses or the leading edge of the respective AGC pulses with respect to each other, or shifting the relative positions of the trailing edge of the sync/pseudo sync pulses and the leading edge of the respective AGC pulses, to provide a modified position separation between the trailing edge of the sync/pseudo sync pulses and the leading edge of the respective AGC pulses sufficient to reduce the effects of the copy protection signals.

The closest prior art to independent claims 1 and 39 was Noller U.S. Patent No. 5,155,767. However, Noller differs from the current application in that Noller is not remotely concerned with creating a position separation between a sync or pseudo sync pulse and a respective AGC pulse of a sync/AGC pulse pair or a pseudo sync/AGC pulse pair.

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As to independent claim 16, prior art does not disclose, teach or fairly suggest an input supplying the copy protected video signal with the trailing edge of the sync or pseudo sync pulses and the leading edge of the respective AGC pulses having the given small position separation which maintains the copy protection effect. Prior art does not disclose, teach or fairly suggest a timing circuitry responsive to the input and providing timing signals coincident with one or more portions of the copy protection signals and indicative of one or more video lines containing sync/pseudo sync and respective AGC pulses. Prior art does not disclose, teach or fairly suggest a modifying circuit responsive to the timing circuitry and shifting a position of the sync/pseudo sync pulses or of the respective AGC pulses on the line so as to provide a modified position separation between the trailing edge of the sync or pseudo sync pulses and the leading edge of respective AGC pulses which is of sufficient position separation to reduce or defeat the effects of the copy protection signals.

The closest prior art to independent claim 16 was Noller U.S. Patent No. 5,155,767. However, Noller differs from the current application in that Noller fails to mention sync/AGC or pseudo sync/AGC pulses and position separation variation, and accordingly fails to suggest delaying or advancing leading or trailing edges of any pulses or of specifying values of the delay or advancement. Noller fails to mention a blanking level, particularly with relation to a position separation and fails to suggest a modifying circuit that provides the pulse shifting and thus modified position separation.

As to independent claims 20 and 22, prior art does not disclose, teach or fairly suggest an input supplying the copy protected video signal with the sync/pseudo sync pulses and the respective AGC pulses. Prior art does not disclose, teach or fairly suggest a timing circuitry

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responsive to the input and providing timing signals coincident with one or more portions of the copy protection signals. Prior art does not disclose, teach or fairly suggest a modifying circuit for modifying the copy-protected video. Prior art does not disclose, teach or fairly suggest that the one or more portion of the modified copy protection signal is altered in reverse order in response to the timing signals to provide altered pulse pairs which defeat or reduces the effect of the copy protection signals. Prior art does not disclose, teach or fairly suggest a modifying circuit including an inverting amplifier/phase shifter circuit receiving the copy protected video signal and responsive thereto to provide inverted/phase shifted sync/pseudo sync pulses and respective AGC pulses to modify one or more portion of the original sync/pseudo sync and respective AGC pulses.

The closest prior art to independent claims 20 and 22 was Noller U.S. Patent No. 5,155,767. However, Noller differs from the current application in that Noller fails to mention phase shifting of any form of pulses, particularly not AGC pulses 180 degrees. Noller does not suggest an amplifier/phase shifter circuit nor inverted/phase shifted sync/pseudo and respective AGC pulses nor a level shifter/attenuator means or inverted/phase shifted pulses that are level shifted/attenuated. Noller fails to suggest that the modified position separation provides the reduction in copy protection effects in a recorder or TV set to allow a recording since Noller only discloses a copy protection process. Noller does not intend raised back porch AGC pulses that are modulated.

As to independent claim 24, prior art does not disclose, teach or fairly suggest providing the sync or pseudo sync pulses with the trailing edges thereof generally coincident with the leading edges of respective AGC pulses thereby having essentially small to zero position

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separation consistent with maintaining copy protection. Prior art does not disclose, teach or fairly suggest dynamically increasing over time the position separation between the sync/pseudo sync pulses and the respective AGC pulses so as to reduce or defeat the effects of the copy protection signals. Prior art does not disclose, teach or fairly suggest dynamically decreasing over time the position separation between the sync/pseudo sync pulses and the respective AGC pulses to return to the essentially small to zero position separation that maintains copy protection.

The closest prior art to independent claim 24 was Oguro U.S. Patent No. 5,907,655. However, Oguro differs from the current application in that Oguro fails to remotely disclose or suggest generating any position separation between a sync or pseudo sync pulse and its respective AGC pulse. Oguro does not remotely suggest providing a position separation between a sync or pseudo sync pulse and its respective AGC pulse, and thus does not in any way suggest dynamically increasing the position separation to reduce or defeat the effects of the copy protection. Oguro does not suggest decreasing the position separation back to the small to zero position separation that re-establishes the copy protection. There is no mention of any type of position separation between selected pulses.

As to independent claim 31, prior art does not disclose, teach or fairly suggest timing circuitry receiving the video signal and which provides timing signals indicative of video lines that are to contain the copy protection signals, and of the location in the video lines of selected copy protection signals. Prior art does not disclose, teach or fairly suggest a generating circuit to generate selectively derived and modulated pseudo sync pulses, which are modulated in response to the timing circuitry, and which generate AGC pulses that vary in width and/or position in

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response to the respective selectively derived and modulated pseudo sync pulses. Prior art does not disclose, teach or fairly suggest a summing/inserting circuit receiving the video signal and responsive to the generating circuit and the timing circuitry to add or insert to the video signal a dynamic copy protection signal formed of the pseudo sync pulses and the respective width and/or position modulated AGC pulses.

The closest prior art to independent claim 31 was Oguro U.S. Patent No. 5,907,655. However, Oguro differs from the current application in that Oguro fails to reveal subject matter that generate modulated inverted pseudo sync pulses and AGC pulses that vary in width and position delay in response to the modulated inverted pseudo sync pulses. Oguro fails to suggest means for adding to the video signal a dynamic copy protection signal formed of the pseudo sync pulses and respective position modulated AGC pulses.

As to independent claim 34, prior art does not disclose, teach or fairly suggest a generating circuit for providing the respective AGC pulses within at least a portion of a back porch. Prior art does not disclose, teach or fairly suggest that the generating circuit dynamically positions and/or width modulates the respective back porch AGC pulses to vary from maintaining to reducing copy protection effects or to vary from reducing to maintaining copy protection effects.

The closest prior art to independent claim 34 was Oguro U.S. Patent No. 5,907,655. However, Oguro differs from the current application in that Oguro fails to suggest, and has no intention of employing, the technique of the current application of generating any position separation between the sync or pseudo sync pulses and the respective AGC pulses (of each pulse

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pair) and/or of dynamically position, pulse width and/or gap width modulating the particular pluses over time from maximum and back to minimum gap separation.

As to independent claim 36, prior art does not disclose, teach or fairly suggest providing the sync/pseudo sync pulses with the trailing edges thereof coincident with, or separated by less than 1.0 microsecond from, the leading edges of respective AGC pulses to provide the copy protection signals. Prior art does not disclose, teach or fairly suggest position separating relative to time the sync/pseudo sync pulses relative to the respective AGC pulses to provide the reduction in the effects or effectiveness of the copy protection signals.

The closest prior art to independent claim 36 was Noller U.S. Patent No. 5,155,767. However, Noller differs from the current application in that Noller is not remotely concerned with creating a position separation between a sync or pseudo sync pulse and a respective AGC pulse of a sync/AGC pulse pair or a pseudo sync/AGC pulse pair.

As to independent claim 40, prior art does not disclose, teach or fairly suggest an input supplying the copy protected video signal with the trailing edge of the negative going pulses and the leading edge of the respective positive going pulses having the given small position separation which maintains the copy protection effect. Prior art does not disclose, teach or fairly suggest a timing circuitry responsive to the input means and providing timing signals coincident with one or more portions of the copy protection signals and indicative of one or more video lines containing the negative going pulses and the respective positive going pulses. Prior art does not disclose, teach or fairly suggest a modifying circuit responsive to the timing circuitry and shifting the relative edges and/or positions of the negative going pulses and of the respective positive going pulses with respect to each other so as to provide a modified position separation



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between the trailing edge of the negative going pulses and the leading edge of the positive going pulses which is of sufficient position separation to reduce or defeat the effects of the copy protection signals.

The closest prior art to independent claim 40 was Oguro U.S. Patent No. 5,907,655. However, Oguro differs from the current application in that Oguro fails disclose to intend a modifying circuit capable of shifting the relative edges and/or positions of the negative going pulses with respect to respective positive going pulses so as to provide a modified position separation between the trailing edge of the negative going pulse and the leading edge of the positive going pulse. There is no mention of trailing or leading edges of any pulses. There is no mention of a process of modifying the position separation between negative going and respective positive going pulses.

As to independent claim 49, prior art does not disclose, teach or fairly suggest dynamically modulating at least one or a selected combination of a position, gap width, pulse width or amplitude of one or more of selected pulses of the sync, pseudo sync, AGC and/or raised back porch AGC pulses so as to synthesis the copy protection signals.

The closest prior art to independent claim 49 was Oguro U.S. Patent No. 5,907,655. However, Oguro differs from the current application in that Oguro teaches a line data signal generating circuit that stores the copy protection signal in memory, if it is detected, and thence to a line pack processing microcomputer. Oguro does not teach synthesizing of copy protection signals by dynamically modulating a selected combination of a position, gap width, pulse width or amplitude of one or more selected pulses.

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As to independent claim 53, prior art does not disclose, teach or fairly suggest dynamically modulating the position, pulse width and/or gap width of the AGC pulses or of the sync/pseudo sync and respective AGC pulses. Prior art does not disclose, teach or fairly suggest that a single AGC and/or pseudo sync pulse is modulated.

The dependant claims, being further limiting to the independent claims, definite and enabled by the specification are also allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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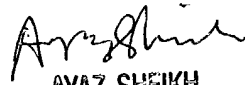
***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 703-305-1373. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy  
August 26, 2004

  
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